

AMENDMENTS TO THE SPECIFICATION

Please replace the paragraph beginning on page 7, line 6 with the following amended paragraph:

After the substrate is exposed to an illumination configuration, the illuminated or non-illuminated portions may be augmented, or further developed, by depositing a metal or other conductive material selectively on the illuminated or non-illuminated portions (portions experiencing or not experiencing a state change). For example, when using conventional silver halide photographic slide film, non-illuminated portions of the developed film can be further augmented using an electroless deposition of elemental silver such that the deposited silver is catalyzed by the silver grains in the photographic film to selectively increase the silver grain size in the film at the non-illuminated portions. Thus, further development or augmenting of the film can result in an electrically continuous pattern in portions of the film, i.e., individual silver grains in the film are selectively grown so that the grains in illuminated or non-illuminated portions contact each other or otherwise interact so as to form an electrically conductive structure on the portion. A metal is deposited in an amount sufficient to provide conductivity to a portion when the portion on which the metal is deposited becomes conductive between one end of the portion and an opposing end of the portion. Once a portion of the film becomes conductive, this portion of the film can be additionally plated, for example by using electrochemical deposition of a metal or other conductive material onto the augmented film portions. This additional deposition step can increase the width and/or thickness of the augmented portions, if desired. The result may be an electrically conductive pattern that matches, or nearly matches, the pattern of the illumination configuration used to expose the photographic film. The electrically conductive pattern can be used for testing, prototyping, actual field use, for use as a mask in photolithographic processing, etc. In certain embodiments, the planar dimension of a portion of the conductive pattern may be, for example, less than about 100 μm in width, or less than about 50 μm in width.

Please replace the paragraph beginning on page 8, line 20 with the following amended paragraph:

The method of microfabrication described below enables rapid prototyping of metallic microstructures with planar dimensions $\geq 30 \mu\text{m}$. For example, in certain embodiments, the planar dimension of a portion of a metallic structure may be less than about 100 μm in width, or less than about 50 μm in width. A single, continuous structure or two or more discontinuous structures may be produced on a single substrate. Production of discontinuous structures may, therefore, be performed simultaneously. An advantage of the described procedure is that laboratories with no access to sophisticated facilities for writing the masks required for photolithography can carry out microfabrication at feature sizes useful in a range of applications such as, for example: microfluidic systems, cell biology, microanalytical systems, microsensor, and microelectromechanical systems (MEMS).